



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/779,988

02/17/2004

Gerrit Konijn

TS1194 (US)

1334

23632

7590

02/22/2007

SHELL OIL COMPANY

P O BOX 2463

HOUSTON, TX 772522463

EXAMINER

BUSHEY, CHARLES S

ART UNIT

PAPER NUMBER

1724

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

02/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/779,988

Applicant(s)

KONIJN, GERRIT

Examiner

Scott Bushey

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 38 32 420 A1.

DE 38 32 420 A1 (Fig. 1) substantially discloses applicant's invention as recited by instant claims 1 and 5, except for the bottom of the return skirt (14) being within 30% of the spacing between the upper and lower walls (6,7), counted from the lower wall. It is noted that Fig. 1 of the reference suggests that the bottom end of the skirt (14) is located about $\frac{3}{8}$ or 37.5% of the spacing between the upper and lower walls (6,7), counted from the lower wall. Clearly one having ordinary skill in the art would recognize that the position of the bottom of the return skirt, which controls the entry point of the liquid-enriched fluid into the free inner space, would be dictated by the amount of secondary separation required and desired, the deeper within the free space that the skirt extends accounting for the pressure drop across the separation tray, which directly effects the energy input requirement to operate the separation column. Since the reference clearly discloses a return skirt height that is very similar to that as recited by applicant's instant independent claim 1, absent an unexpected showing of criticality, it would have been obvious for an artisan at the time of the invention, to modify the

placement of the bottom of the return skirt to within 30% of the spacing between the upper and lower walls (6,7), counted from the lower wall, since such would provide incrementally improved phase separation in a well understood manner, albeit at the expense of increased pressure drop across the separation tray.

3. Claims 3, 4, and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 38 32 420 A1 taken together with EPO 0 048 508 A2.

DE 38 32 420 A1 (Fig. 1) as applied above substantially discloses applicant's invention as recited by instant claims 3, 4, and 6-8, except for the at least one opening formed in the sidewall of the tubular conduit of the primary separation device and the return skirt being integrally formed with the upper wall.

EPO 0 048 508 A2 (Figs. 6 and 7) disclose a primary separation device having a tubular conduit, wherein at least one opening (67) is formed in the sidewall thereof. The reference also teaches forming the return skirt (72) around the tubular conduit as being integral with the upper wall of the separation tray. It would have been obvious for an artisan at the time of the invention, to modify the apparatus as taught by DE 38 32 420 A1, to include at least one opening in the sidewall of the tubular conduit, and to form the return skirt integrally with the upper wall, in view of EPO 0 048 508 A2, since such would reduce the pressure drop within the primary separation device by allowing more exit area for the liquid enriched fluid from the tubular conduit, and forming the return skirt integrally with the upper wall would lend structural integrity to the upper wall.

Art Unit: 1724

4. Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the reference combination as applied to claims 3, 4, and 6-8 above, and further in view of Sheinman.

The reference combination as applied to claims 3, 4, and 6-8 above substantially discloses applicant's invention as recited by instant claims 9-14, except for the specific recitation that the swirl imparting means are formed integrally with the bottom wall and are formed by providing the metal plate of the bottom wall with slits and then bending the segments out of the plane of the plate. While silent to the manner of forming the swirl vanes, the references of the reference combination as applied to claims 3, 4, and 6-8 above almost certainly form the vanes from a metal sheet or plate. Furthermore, applicant must recognize that the manner of manufacture of the swirl means is irrelevant to the patentability of the apparatus claim, if the reference(s) teach(es) the same structure. Therefore, the sequence of steps of claim 9, as well as the cutting step being a laser cutting step, as recited by instant claim 11, cannot be considered to impart patentability to the apparatus claims. Applicant should note that the primary reference combination clearly teach that which is recited by instant claims 13 and 14.

Sheinman (Figs. 1 and 2; col. 2, lines 41-42) teach forming a swirl imparting vane structure integrally with the bottom plate of a separator similar to that of the primary reference combination, by way of a stamping process. It should be noted that the stamping process inherently performs a slitting step immediately followed by a bending step to form the swirl vane structure. It would have been obvious for an artisan at the time of the invention, to provide the swirl vane structure, of the primary reference

Art Unit: 1724

combination as applied to claims 3, 4, and 6-8 above, integrally with the bottom plate of the separator, in view of Sheinman, since such would facilitate easier assembly of the device over a structure wherein the bottom plate and the vanes were formed separately and then connected by welding, for example.

Response to Arguments

5. Applicant's arguments with respect to claims 1 and 5 have been considered but are moot in view of the new grounds of rejection, which were necessitated by applicant's amendment to independent claim 1.

6. Applicant's arguments filed December 26, 2006, pertaining to dependent claims 3, 4, and 6-14, have been fully considered but they are not persuasive.

Applicant's argument that the rejections applied to claims 3, 4, and 6-14 are untenable since the secondary and/or tertiary references fail to remedy the defects of the primary reference are not persuasive, since as shown above, the primary reference does not in fact suffer the deficiency alleged by applicant. Further, arguing that EPO 0 048 508 A2 cannot be combined with the primary reference to reject claims 3, 4, and 6-8, since the EP reference allegedly allows short circuiting directly to the secondary gas outlet, is irrelevant since the reference is applied to teach the well known structures of at least one opening formed in the sidewall of the tubular conduit of the primary separation device and the return skirt being integrally formed with the upper wall. Clearly, the primary reference teaches a structure that precludes short circuiting directly to the secondary gas outlet. Lastly, with respect to the alleged non-analogous status of the Sheinman reference relative to the other references applied against instant claims 9-14,

Art Unit: 1724

such is not persuasive, since the test of whether art is analogous is two-pronged. The prior art must either be within the applicant's art of endeavor, or if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. In this case, the Sheinman reference is at least pertinent to the particular problem with which the inventor was concerned, since the reference teaches that it is well known to form a swirl imparting vane structure integrally with the bottom plate of a contactor/separator, by way of a stamping process, thus reducing the cost of manufacture of the apparatus.

Conclusion

7. Applicant's amendment necessitated the new ground of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

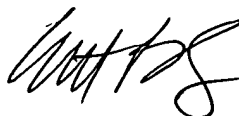
Art Unit: 1724

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Bushey whose telephone number is 571 272-1153. The examiner can normally be reached on M-Th 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Scott Bushey
Primary Examiner
Art Unit 1724


2-13-07

csb
2-13-07